

In forms so simple in other respects, we might anticipate some simplicity in the nucleus. In making phylogenetic charts, there is even greater room for difference of opinion, but that room will become more and more restricted as the number of critical investigations increases. In regard to distribution, habitats, structure, and biology there is less room for dispute, and these subjects constitute the most interesting and valuable part of the book. The 271 illustrations, comprising 1284 lettered or numbered figures, are well drawn, and more than half of them are from the pen of the author.

The second volume, with its taxonomic keys, will be awaited with interest, for the cosmopolitan habit of most algae makes such keys almost as serviceable in the United States as in England.—CHARLES J. CHAMBERLAIN.

MINOR NOTICES

Ornamental trees of Hawaii.—A book³ upon the introduced trees grown for ornamental purposes in the Hawaiian Islands, containing adequate descriptions and excellent illustrations, should prove a useful and a welcome source of inspiration and instruction to the residents of Honolulu and other similarly situated towns. To those living in other lands it shows the possibilities of tropical islands for the growth of many beautiful and remarkable trees and shrubs imported from other tropical countries. Among these trees the palms and the legumes stand preeminently first in importance, each family having devoted to its presentation a score or more of plates, while nearly double that number of species are described. The other families represented are too numerous to permit of enumeration. The descriptions are non-technical but apparently quite accurate. There is no attempt at any key to genera or species, although the importance of such an aid to identification is obvious. It is to be feared that without some such assistance and in spite of the numerous good illustrations the amateur botanists of Hawaii will encounter considerable difficulty in using the volume to further their acquaintance with introduced trees.—GEO. D. FULLER.

NOTES FOR STUDENTS

Taxonomic notes.—ARTHUR⁴ has described a new genus (*Frommea*) of rusts, the type being *Uredo obtusa* Strauss on *Tormentilla erecta*.

BLAKE⁵ has described two new species of *Polygonum*, *P. achoreum* occurring from Quebec and Vermont to Minnesota, Missouri, Montana, and Saskatchewan; and *P. allocarpum* occurring along the sea coast of Maine and adjacent islands of New Brunswick.

³ ROCK, JOSEPH F., The ornamental trees of Hawaii. 8vo. pp. v+210. pls. 80. 1917. Honolulu. H.I. Published under patronage.

⁴ ARTHUR, J. C., Relationship of the genus *Kuehneola*. Bull. Torr. Bot. Club 44:501-511. 1917.

⁵ BLAKE, S. F., Two new Polygonums from New England. Rhodora 19:232-235. 1917.

BURT⁶ has monographed the genus *Merulius* in North America, recognizing 40 species, 16 of which are described as new. In connection with the description of each species, a full list of specimens examined is given.

DEARNESS⁷ has described 38 new North American species of Ascomycetes, representing 28 genera.

EVANS⁸ has described a new species of *Lejeunea* (*L. minutiloba*) occurring in Bermuda, Cuba, Porto Rico, and St. Thomas.

FERNALD⁹ has described a new willow (*Salix Peasei*) from the White Mountains of New Hampshire. It is a "depressed shrub" trailing on wet mossy banks at an altitude of 4300-4500 feet.

GIBBS¹⁰ in connection with a study of the Arfak Mountain region of New Guinea has included the descriptions of 90 new species by various authors. Among them are the following new genera: *Gibbsia* (Urticaceae), *Idenburgia* (Trimeniaceae), *Poikilogyne* (Melastomaceae), and *Palmervandenbroekia* (Araliceae). The new species are distributed as follows: Pteridophytes 7, Gymnosperms 2, Monocotyledons 26, Dicotyledons 55.

MAIRE¹¹ has published descriptions of new or little known fungi of northern Africa. The contribution includes 41 new species, distributed as follows: Phycomycetes 2, Ascomycetes 12, Ustilaginales 6, Uredinales 4, Autobasidiomycetes 4, Fungi Imperfecti 13.

MERRILL¹² has published a second paper on the flora of Borneo, describing 39 new species, and crediting about 25 additional ones to Borneo for the first time. The previous paper contained 48 new species and a new genus.

ROCK¹³ has published a detailed account of the genus *Metrosideros* as represented in Hawaii. He recognizes 4 species, the most remarkable being the polymorphous *M. collina*. In fact, the name is *M. collina* subsp. *polymorpha*, under which 8 varieties are described, and 3 forms of as many varieties. The species, therefore, is treated as a trinomial, the varieties bearing 4 names and

⁶ BURT, EDWARD ANGUS, *Merulius* in North America. Ann. Mo. Bot. Gard. 4:305-362. pls. 20-22. 1917.

⁷ DEARNESS, JOHN, New or noteworthy North American Fungi. Mycologia 9:345-364. 1917.

⁸ EVANS, ALEXANDER W., A new *Lejeunea* from Bermuda and the West Indies. Bull. Torr. Bot. Club 44:525-528. pl. 24. 1917.

⁹ FERNALD, M. L., A new alpine willow. Rhodora 19:221-223. 1917.

¹⁰ GIBBS, L. S., A contribution to the phytogeography and flora of the Arfak Mountain, etc. London: Taylor and Francis. 1917. 12/6.

¹¹ MAIRE, R., Champignons Nord-Africains nouveaux on peu connus. Bull. Soc. Hist. Nat. de l'Afrique du Nord 8:134-200. 1917.

¹² MERRILL, E. D., Contributions to our knowledge of the flora of Borneo. Jour. Straits Branch R. A. Soc. no. 76. pp. 75-117. 1917.

¹³ ROCK, JOSEPH F., The Ohia Lehua trees of Hawaii. Bot. Bull. 4, Board of Agric. and For. Hawaii. pp. 76. pls. 31. 1917.

the forms 5 names. The numerous plates are reproductions of fine photographs.

SMALL¹⁴ has described a new species of *Anamomis* (*A. Simsonii*) from the Everglades of Florida. The only other species of the genus known to grow in the United States is the endemic *A. dicrana*, which occurs in a different part of Florida.

SMITH,¹⁵ in continuation of his studies of Malayan orchids, has described 66 new species, representing 24 genera. *Basigyne* is described as a new genus.

STURGIS¹⁶ has described new species of Myxomycetes, chiefly from Colorado, in *Physarum* (2), *Didymium*, and *Enteridium*.

SMITH,¹⁷ in continuation of his studies of *Lupinus*, has monographed the *Microcarpi*, recognizing 6 species, although 14 specific names have been published. The discussion of *L. densiflorus* with its varieties is reserved for a later paper. The variable species of the 5 considered is *L. subvexus*, 8 new varieties being described.

WERNHAM,¹⁸ in continuation of his studies of tropical American Rubiaceae, has described a new genus (*Raritebe*) from Colombia, resembling *Bertiera*, the new name being an anagram of the latter. New species are also described in *Psychotria* (2) and *Palicourea* (4).—J. M. C.

Evaporation and soil moisture studies.—The increasing amount of attention given to quantitative studies of the moisture factors of various plant communities is shown by several recent papers. Conspicuous among them is one by WEAVER,¹⁹ reviewed elsewhere in this journal, in which he reports measurements of the evaporating power of the air and of soil moisture in both forest and grassland associations of southeastern Washington, leading to the conclusion that "evaporation rates and the amount of soil moisture in the various communities vary in general directly with the order of their occurrence in the succession, the climax community being the most mesophytic in both respects." With regard to the former factor it is further stated that "a study of the differences of the rate of evaporation in the various plant communities shows that

¹⁴ SMALL, J. K., The genus *Anamomis* in Florida. *Torreyia* 17:221-224. fig. 1. 1917.

¹⁵ SMITH, J. J., *Orchidaceae novae Malayensis*. VIII. *Bull. Jard. Bot. Buitenzorg* II. no. 25. pp. 103. 1917.

¹⁶ STURGIS, W. C., Notes on new or rare Myxomycetes. *Mycologia* 9:323-332. pls. 14, 15. 1917.

¹⁷ SMITH, CHARLES PIPER, Studies in the genus *Lupinus*. II. The *Microcarpi*, exclusive of *Lupinus densiflorus*. *Bull. Torr. Bot. Club* 45:1-22. figs. 16. 1918.

¹⁸ WERNHAM, H. F., Tropical American Rubiaceae. X. *Jour. Botany* 55:336-341. 1917.

¹⁹ WEAVER, J. E., A study of the vegetation of southeastern Washington and adjacent Idaho. *Univ. Neb. Studies* 17:no. 1. pp. 114. figs. 48. 1917.